Performance, competition and the dynamics of rules: the case of a financial market

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Stimulated by strong European political will, the French New Market was created in 1996 to improve the financing of growing French companies[1]. Because of its success, the NASDAQ, specialised in high tech industries, was chosen as a model for the organisation of exchanges in the French New Market (FNM). After its creation, the FNM successively expanded and declined. In 2000, the FNM benefited from the boom in internet values, recording 52 introductions. During the following years, the decline that had affected the NASDAQ, the bursting of the so-called "internet bubble", reached the European markets. The FNM was particularly affected, recording only a dozen introductions in 2002. At the same time, it suffered the collapse of its index, which fell by approximately 45%. Since 2003, the FNM has not recorded any introductions.

We assume that the difficulties encountered by the FNM cannot be imputed solely to the financial internet bubble (March, 2000). Even before this event, the FNM had never fulfilled the expectations of the French market authorities: the creation of a dynamic market connecting investors with French innovative firms in need of funds. This market was expected subsequently to become a reference in Europe. Yet, the FNM has never exhibited a high degree of liquidity: the production of liquidity services often being regarded as the key function of a stock exchange[2]. Furthermore, even before 2000, the FNM never attained the importance of the Neuer Markt, the German growing firms market created one year later. The number of quoted firms between 1997 and 2001 illustrates the success of the Neuer Markt[3]. This segment counted 11 firms in 1997, 129 at the end of 2000 and 340 firms in 2001. The French New Market counted around 100 firms at the end of 1999 and 164 firms in 2001. The FNM has failed to assert itself as the technological market of the Paris Stock Exchange.

In this paper, the issue of the failure of the FNM is explored in the light of the dynamics of rules[4]. According to us, the dynamics of rules and the contents of the changes shed light on how a market functions, and also attest as to whether it flourishes or encounters difficulties. Using organisation theory and more specifically March, Schulz and Zhou's (2002) approach, we study the dynamics of rules governing exchange on the FNM between 1996 and 2004, in order to appreciate the main factors involved in the FNM failure.

[*] I would like to thank M. Harvey and D. Rivaud-Danset for their very constructive comments. Thanks also to S. Guennif for her helpful suggestions. Any remaining errors are my own responsability.

[1] According to the criteria of the Paris Stock Exchange, firms admitted onto the FNM are characterised by a growth in turnover which must exceed 30% per year and by forecast growth (Société du Nouveau Marché, 1996).

[2] Liquidity distinguishes markets where it is possible to buy or sell shares rapidly at sensible prices under bearable costs (Biais, Davydoff and Jacquillat, 1997, p. 3).

[3] The Neuer Markt, which was successful towards the end of the 1990s, finally disappeared in 2002.

[4] Solely rules that are recorded in written form - formal rules – are envisaged, even if unwritten rules – informal rules – such as social norms, standard practice, tacit understanding and rules of thumb are also important in understanding how an organisation or a market works.

On the basis of an institutional approach, we make the hypothesis that rules are at the core of the market concept. So, the performance of a market is attached to the consistency of the set of rules that govern exchanges and the way rules change. First of all, it appears necessary to specify the connections between exchange rules and financial market performance. This involves to take into account the double dimension of the FNM as an institution and as an organisation (Revest, 2001a). While organisations represent "groups of individuals bound by some common purpose to achieve objectives", institutions provide the framework necessary for organisations to function and develop (North, 1991, p. 5). In relation to its double dimension, the FNM has to be competitive (organisational dimension) and to ensure the best possible exchange conditions for growing firms and for investors (institutional dimension). Consequently, as rules change with time, the FNM performance depends on the coherence between institutional changes and organisational changes.

The first part of this paper is dedicated to the conditions of the emergence of the FNM. In the second part, the link between financial market performance and exchange rules is examined. The failure of the FNM is explained in the last part, through the analysis of the dynamics of rules between 1996 and 2004.

1 The Conditions of the emergence of the French New Market

At the end of the 1980s, several European Economic Community studies underlined the need to create European markets dedicated to growing firms. For France, as for other European countries, the creation of a market raised the question of the choice of model for the organisation of exchanges.

1-1 The need for markets dedicated to Growing European Firms

As a rule, growing firms have no accounting or financial history and often present a lack of profit[5]. In addition, innovative growing firms present a high degree of uncertainty (Dubocage and Rivaud-Danset, 2002)[6]. These characteristics induce two main consequences for the sources of financing. Firstly, in order to start up, innovative firms have to turn to venture capital financing. Secondly, young innovative growing firms do not fulfil the conditions necessary to be quoted on a traditional financial market segment[7].

In 1996, the creation of the FNM satisfied the requirements of two classes of participants: professional venture capitalists and emerging firms. At the end of the 1980s and the beginning of the 1990s, venture capital firms expressed regret at the lack of exit opportunities for their funds. "Venture capital firms invested without knowing if there would be a way out for their investment. Then, the idea arose of creating markets where professional venture capitalists could gradually withdraw their funds and allocate them to new investments" (Les Echos, 05/10/94).

From 1993 to 1995, several studies argued that growing firms needed more significant funds than those offered by the traditional financing system of venture capital firms and banks. In a memorandum of October 1993, the European Community stressed the need to facilitate the access of growing firms to long term capital markets. One study conducted by the EEC in 1994, the European Business Survey, revealed that a quarter of the firms questioned cited the lack of

[5] Growing firms can be split into two groups: innovative growing firms and non-innovative growing firms.

[6] According to the authors, innovative firms are characterised by different kind of uncertainty as technological uncertainty, market related uncertainty…

[7] Until now, the Paris stock exchange has been divided into 3 segments: the first market, the second market and the New Market. Firms with high capitalisation and turnover are quoted on the first market; firms with medium capitalisation and turnover are quoted on the second market, and growing firms with low capitalisation and turnover are quoted on the NM.

financing as an obstacle to their development. Yet, according to Rivaud-Danset (2002), although "the lack of financial resources is an important obstacle to innovative activity among continental European firms, it is not the most important" (p.10). The economic risks of the project have to be taken into account.

Among the obstacles quoted, the European Community report sheds light on: (i) the lack of skills and information both in management and finance for a great number of firms; (ii) the limits to bank funding, (iii) the lack of exit for the venture capital firms, (iv) the lack in the European Community of financial markets that could enable the funding of small firms, compared to the American financial markets (Commission des Communautés Européennes, 1994). According to Graham Bannock & Partners' report (1994), the main European financial markets were not specialised in quoting small firms. In 1994, the ten biggest firms represented 23% of the whole capitalisation of the market in London, 25% in Paris and 74% in Amsterdam.

The aim of the expansion of secondary markets in some countries was to permit small firms to raise funds more easily, with less expensive terms of registration and information than those of the main markets (the "first market" in France). However, it was not sufficient for the funding of very small firms. "56% of European firms with more than 500 wage-earners raise funds through financial markets. This percentage decreases to 2.2% for European firms with less than 500 wage-earners. Moreover, the crash of stock exchanges in 1987 induced the collapse of secondary European markets" (Perrin, 1997, p. 783). This collapse stimulated the strength of attraction of the NASDAQ for small and medium firms. The development of the NASDAQ market was partly stimulated by the lack of interest of the NYSE in small and medium firms (NASD Department of Economic Research, 1998). In 1994, around 10% of the new quoted firms were European [Graham Bannock & Partners]. "The flotation of the German Qiagen at NASDAQ in 1996 was a signal to reform the German finance community" (Peukert, 2003, p. 223). Finally, 135 European firms were present on the NASDAQ in August.

1-2 The NASDAQ model

In 1995, The European Community feared that small and medium growing European firms would leave Europe to join the NASDAQ market. "Once the firms are quoted on the NASDAQ, it is doubtless that they will choose to expand in the United States, in order to issue new shares" (Commission des Communautés Européennes, 1995).

Following a study on the opportunities of creating a European Market for growing firms, the NASDAQ structure appeared to be the most appropriate (European Community Commission, 1995). According to a San Francisco research organism, 20% of Initial Public Offerings (IPO's) on the NASDAQ concern high technology firms, compared to only 10% for the main European markets (Commission des Communautés Européennes, 1995). For several European countries and the European Community, the NASDAQ represented the best structure to satisfy the needs of small and medium growing European firms.

The NASDAQ - National Association of Securities Dealers Automated Quotations System - was created in 1971 in order electronically to disseminate quotes of professional securities dealers for stocks not listed on exchanges in the Over-The-Counter (OTC) market. Prior to NASDAQ, quotes were disseminated by means of paper copy, newspapers, and a number of private electronic systems. Thus, the NASDAQ is in essence a telecommunications network linking thousands of geographically dispersed market participants, and there is no central trading floor like those used by the securities exchanges. According to the process of price setting on the NASDAQ, called a "quote-driven market", market makers have to post continuous, two-sided quotes (i.e. bid and ask) which consist of a price and a size, to generate investors' orders. They have to post prices before orders are submitted. The alternative organisation to a "quote-driven market" is an "order-driven market", where the prices are determined by the confrontation between the orders of the buyers and sellers. In this latter case, therefore, orders are submitted first and only then are trading prices determined.

On the NASDAQ, the quotes displayed by the market makers must be “firm”. This means that if any NASD member presents an order to a market maker, the market maker is obliged to trade at terms no worse than its quotes. Failure to do so constitutes “backing away”, which can be subject to regulatory sanction[8].

At the end of 1995, 5122 firms were quoted on the NASDAQ, with a total capitalisation of 1 thousand billion dollars[9]. The NASDAQ market prospered for several reasons. It was characterised by a high degree of liquidity. The conditions of entry on the market remained flexible. NASDAQ required 1 million dollars turnover for the NMS (Normal Market Size), instead of 2.5 million for the NYSE. Moreover, according to Orsi (2001), the NASDAQ entry conditions have changed over time in order to promote technological growing firms. These changes followed two directions. Firstly, the quantitative criteria were relaxed. Secondly, qualitative criteria linked essentially to corporate governance concerns were strengthened. Concretely, two kinds of firms could enter into the NASDAQ: i) firms making profit but with a low level of assets, and ii) firms exhibiting a high level of assets but without profit. For example, firms without profit could be quoted on the NASDAQ if their capital was above 8 million dollars. Relating to the “qualitative listing requirements”, the emphasis lies on three principles: information transparency, independent audit committee and direct shareholder representation.

Furthermore, as many high technology firms were quoted on the NASDAQ, specialised knowledge about high technology emerged and expanded in the financial community. For all these reasons, the NASDAQ was viewed as a model by the EEC for the financing of growing firms.

1-3 The identity of the FNM

If the choice of the organisation of exchange in the FNM is based largely on the NASDAQ model, the FNM has nevertheless developed its own inner organisational characteristics. The Roger and Faure report (February 1995) which built the foundations of the FNM stressed the fact that this market should have a proper identity, and, in particular, that it should be independent of the other French markets. According to the authors of the report, the specificity of this market should appear as early as the admission process. “The market firm should support an active policy for prospecting and admitting firms, in order to confer to the FNM a strong identity” (p. 26).

The identity of the FNM appears firstly in the setting up of a consultative committee with industrial and scientific skills. According to Roger and Faure’s report, the aim of this committee was “to catalyse trust and progressively build a ‘market culture’” (p. 26). The second specificity of the FNM was the introduction of one unique ITM (Introducteur Teneur de Marché (market maker)) per value. On the NASDAQ at this time, one could find around 12 market makers per share, and around 40 market makers for the large values.

Two main reasons can explain this fact. Firstly, market making introduced a new skill into France. The Bourse de Paris has always been characterised by an “order driven” market. Market making is more typical of the markets of English-speaking countries, such as the NASDAQ and the London Stock Exchange. Consequently, the Bourse de Paris lacked experience in market making. Secondly, the members of the Bourse de Paris wished to establish

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8 The years 1994 to 1996 were characterised by substantial controversy regarding the fairness of the NASDAQ market. Christie and Shultz (1994) revealed a “tacit collusion” between NASDAQ market makers. This controversy culminated in major reforms to NASD governance and NASDAQ trading rules (Revest, 2001 c).

9 The NASDAQ has experienced remarkable growth and today represents a serious competitive alternative to the dominant equity exchange in the U.S., the New York Stock Exchange (NYSE).

a close link between the market maker and the firm quoted. The market makers were to be more involved with the firms quoted than they were on the NASDAQ. According to the Roger and Faure report, the role of the market makers was to help and support new firms, to provide market making and to promote these firms to the investors. Meetings between market makers and firms were regularly organised, in order to improve the knowledge of the market maker about the firms they followed. A market maker on the FNM testifies that his behaviour was quite different to that of the NASDAQ market makers. “We are concerned about the firms we quote. That’s different to the NASDAQ where the market makers regard firms as pawns in the game”[10]. The combination of an order driven market and a price driven market also represents a significant specificity of the FNM. The investors can choose either to call a market maker or to send their orders to the order book.

In summary, an examination of the construction of the FNM reveals two major phenomena. Firstly, the creation of the FNM was stimulated by the obstacles to financing encountered by small and medium European firms. Secondly, the organisation of exchanges on the FNM is the product of the influence of NASDAQ, of the characteristics of growing values and of the weight of the history of the Paris Stock Exchange.

2 An institutional approach to financial market performance

Before studying the main factors involved in the failure of the FNM, it is necessary to specify what we mean by “financial market performance”. In which circumstances do we say that a financial market is successful or not? In order to answer to this question we rely on the analysis of the rules that govern the exchanges[11].

2-1 Rules and market performance

Adopting a Polanyan (1957) “perspective”, we advocate the point of view that the different ways of organising exchange (circulation of information, price mechanisms, etc.) shape markets, in their nature and the way they function and change. From this perspective, a market can be viewed as physical or virtual structure of repeated exchanges governed by formal and informal rules. The rules being at the core of the market concept, the way a market works is linked to the degree of consistency of the set of rules supporting the exchanges[12]. Furthermore, the way these rules change and the contents of the changes explain, to a certain extent, a market’s performance.

In the case of the FNM, in order to shed light on the dynamics of rules, only formal exchange rules are considered. These formal rules are created by the market authorities; they govern the way exchanges are concluded. Generally, the market authorities are represented by the market itself and by an independent regulatory organisation. In 1996, the COB[13] (Commission des Opérations Boursières) was the independent public organisation, of which the primary missions were to maintain the integrity of the French securities markets and to protect investors. The COB required public companies to disclose meaningful financial and other

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[10] Interview with an ITM, 2001

[11] Our analysis differs from the economic concept of « market failure » which refers to situations where markets fail to efficiently provide or allocated goods and services. Cf. for instance, Bator (1958), Arrow (1962).

[12] An alternative approach is based on the analysis of the organisation of economic exchange, instead of studying markets (Harvey and Randles, 2002). This approach makes it possible to analyse the variety and dynamics of exchange processes, without making the usual presumption of a well-defined market.

[13] In order to strengthen the power of the French public authorities, the COB and the CMF (Conseil des Marchés Financiers) merged in 2003 into the AMF (Autorité des Marchés Financiers).

information to the public. It had the power to sanction individuals and companies that were breaking the securities laws; typical infractions include insider trading, accounting fraud, and providing false or misleading information about securities and the companies issuing them.

How can we judge that the different sets of exchange rules in a market - and the way they change -are consistent? One answer relies on the specific nature of the market studied. The set of rules and the dynamics of rules should respect the specific nature of the market. If all markets share the objective of enabling exchanges to take place, through formal and informal rules, they differ according to the characteristics of the actors, the nature of the good exchanged, the exchange organisation and the means of regulation.

2-2 The double nature of the FNM: organisation and institution

Organised financial markets such as the FNM can be defined as organisations and institutions, based on North's (1991) distinction. "*Organizations* are created with purposive intent in consequence of the opportunity set resulting from the existing set of constraints (*institutional* ones as well as the traditional ones of economic theory…" (North, 1991, p. 5)[14]. North made a bright analogy between organisations and institutions and a competitive team sport. The institutions are analogous to the rules of the game in a competitive team sport and the organisations represent the players: "the purpose of the rules is to define the way the game is played. But the objective of the team within that set of rules is to win the game" (pp. 4-5). So as Meynard (1995) observed, there is a "symbiotic relation between institutions and the consequent organisation".

As an organisation, the FNM has to attract orders and make a profit. Financial markets fund regulatory and surveillance functions through income activities: quotations (registration fee for the quote), negotiations (transaction commissions and software renting), services (subscription for information circulation, clearing fees) and other products. For a long time, financial markets were non profit-making organisations. Following the deregulation waves of the 1980s, financial markets moved from being not-for-profit organisations to profit-making organisations. In Europe, the first changes appeared at the end of the 1980s with the growth of the Seaq International, a London Stock Exchange market dedicated to foreign values. As the Seaq International attracted many firms, Continental Europe modernized its structures and functioning rules in order to become more competitive. The financial markets were then confronted with the following changes: the introduction of competition, technical changes, capital opening and profit objectives. The evolution of the competitive context led financial markets to seek alliances with other markets. "Financial markets appear to be at a decisive stage in their evolution, where phenomena of maturity and overcapacity, combined with major technological changes, are leading them to seek industrial cooperation agreements to ensure their competitiveness and obtain a measure of security for the future" (Andisel Chopin, 2001, p. 63).

The procedures that permit a regulated financial market to make profits are embedded in a specific institutional framework[15]. From an institutional viewpoint, the principal function of financial markets is to ensure the best possible exchange conditions: transparency, equity between agents and good quality information. According to Champarnaud (2000), "from a juridical point of view, the "market firm" is certainly a commercial firm, but it is also responsible for a public interest and for the way the market functions. Regulating a financial

[14] Based on the link between "organisation" and "institution", Kichou and Rizopoulos (2001) suggest distinguishing between two classes of organisations: organisations that "consume" rules and organisations that "diffuse" rules. Institutional innovation is then perceived as the result of the interaction between these two classes of organisations.

[15] In a different way, Favereau (1989) defines the financial markets as "market organisations". Financial markets have both the characteristics of a market (the role of prices) and of an organisation (the role of rules).

market means not only producing rules, but also ensuring that the system experiences harmonious and stable development . The two main objectives of financial regulation remain the security of transactions and the protection of investors. For instance, the markets authorities have to verify that intermediaries have the necessary skills and ethical behaviour. They also have to control the information supplied by the issuers and the performance of the negotiation systems.

If the FNM possesses characteristics of both an institution and an organisation, the notion of rules is fundamental because it is common to institutional and organisational fields"[16] (Chavance, 2001). Rules enable better understanding of the connections between organisation and institution. On the one hand, explicit institutional and organisational rules operate in the same way and share a wide common objective: the coordination of individual actions. On the other hand, institutional rules differ from organisational rules essentially in terms of the motivations at the origin of the rules. In the specific case of a financial regulated market, the organisational rules are essentially inspired by profit objectives and institutional rules by security and quality objectives. So, institutional and organisational motives stimulated the market authorities' decisions to create and/or change some rules[17]. According to this viewpoint, the performance of a financial market such as the FNM depends on the consistency between organisational and institutional motives at the origins of the rules.

In certain circumstances, the coexistence of what we have referred to as institutional and organisational motives may generate conflicts of interest. This was the case for the NASDAQ in the mid 1990s. During this period, the regulatory authority of the market, the NASD, motivated partly by competition with the NYSE, supported collusive practices on the part of the market makers (Revest, 2001c). In the case of the FNM do institutional rules and organisational rules have opposed each other at any moment? What were the consequences for the global functioning of the FNM and for its performance?

3 From the dynamics of rules to the failure of the FNM

In this section, we study the relation between the dynamic of rules in the FNM during the period 1996-2004 and the difficulties encountered by this market. Relying on March and al. approach's, we show that the rules changes were not always consistent with the double nature of the FNM, as an institution and an organisation.

3-1 The dynamics of rules: a tool for the analysis of the FNM's failure

Despite its youth, the FNM underwent various rule changes between 1996 and 2002. These changes affected several dimensions of the market's functioning, such as the obligations of shareowner leaders, the obligations of the ITM (Introducteur Teneur de Marché – market maker) or the quotation mechanisms. The legal organisation of the FNM has also changed several times since this market emerged. In 1996, the FNM was a regulated market managed by a market firm: "La Société du Nouveau Marché" (SNM). In 1999, the SNM was taken over by the "Société des Bourses Françaises". The latter then disappeared in 2000, with the birth of Euronext. Regulated financial markets were created in 1993 by the European Investment

[16] The field of organisations is marked by a prolific literature about rules in organisations. Cf. Holmström (1979), Grossman and Hart (1986), Cohen et al, (1996), Dosi et al, (1997)… Organisational theory made a major contribution [(March and Simon (1958), Cyert and March (1963)].

[17] The concrete decision's process is certainly more complex than the dichotomy between institutional motives and organisational motives, yet this distinction illustrates one important dimension of the market authorities's process of decision.

Services Directive (ISD) in order to facilitate the emergence of efficient, integrated and orderly EU financial markets. Those markets dedicated to financial instruments function in a regular way and have firm entry, organisation and negotiation conditions[18]. Moreover, regulated financial markets obtain the status of “market firm”. This means that, like other traditional organisations, they seek to make profits. They compete with each other not only for the order flows, but also for the other activities of their production line, such as the negotiation mechanism, the clearing room, etc.

According to Reynaud (2002, p. 2), even if many economists recognise that rules are a coordination tool, very little research exists to explain how they actually make exchange possible or how they change. A major contribution to the question of the way rules change has been written by March, Schulz and Zhou (2002), who offer a framework for the analysis of the dynamics of written rules in an organisation.

In order to examine the dynamic of formal rules in the FNM between 1996 and 2004, we rely on March et al.’s approach (2002). The authors analyse the dynamics of written rules in a specific organisation: Stanford University. March et al. carried out a quantitative analysis of the historical patterns and statistical properties of the formation and changing of rules in Stanford University between 1891 and 1987. The results of the quantitative analysis reveal certain regularities in the dynamics of rules. “…rule histories have regularities that might not be obvious either from focusing on increases in organisational size or complexity, or from assuming an efficient historical match between rules and their environments, or from the usual telling of detailed contextual stories about rule adoption” (p. 161). Beyond the results of the quantitative analysis, the force of March et al.’s analysis lies in their explanation of the dynamics of rules.

Their approach concentrates on three dimensions[19]. Firstly, rules evolve over time in response to new problems. Frequently, problems originate from outside the organisation. These external problems often relate to historical concerns. “When a rule is created, changed or eliminated, it records a reaction to external or internal pressures on the organization” (p. 2). Secondly, according to the authors, rules are interrelated within an organization. The adaptation of rules may be local, but rules are not autonomous. Within a set of rules, a change in one rule will probably affect the others. “These ecological connections matter and we need to treat the development of organizational rules as a co-evolutionary process within a population of interconnected rules” (p. 57). Thirdly, rules both record history and reflect learning within the organisation. “As organizations accumulate experience with particular sets of procedures and problems, they develop competencies that reduce the need for new procedures” (p .57).

As the approach of March and al. being essentially descriptive we need to incorporate the notion of financial market failure. If the way rules change reflect financial market performance, the main factors involved in the dynamics of rules have to be connected to the performance - or quality - of the FNM. This conduct us to the following proposition: the strain of the environment, the ecology of rules and the learning process should respect the specific nature of the market studied. In the case of the FNM, these three dimensions should take into account in their process the equilibrium between institutional and organisational motives. Consequently, the dynamics of rules should incorporated, at the same time, the necessity for the FNM to be competitive and to guarantee the best exchange conditions for the different actors.

Examining the dynamics of exchange rules between 1996 and 2004 reveal: a consequent strain of the competitive environment (3-2), a deficiency of the organisational learning relating to market making(3-3) and a lack of respect of the ecology of rules (3-4).

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18 According to the ISD, the term “non-regulated” markets, on the other hand, refers to Over the Counter markets. In these markets, there is no regulation or control, however transactions are organised.

[19] Technological progress has also continuously contributed to rule changes on the F NM. On the influence of technology on market functioning, see Muniesa (2000).

3-2 The influential strain of the external environment: the role of competition

According to March et al., the environment is the major source of problems confronting the organisation. Some authors, such as Scott (1981) and Granovetter (1985), refer to the embeddedness of organisations in their social, political and cultural context. Consequently, the strain of the environment on the organisation leads to changes in the written rules. However, although the link between rule change and the external environment is widely acknowledged, the way the environment influences organisations is still under debate.

One approach emphasises the role of the institutional environment in shaping the internal operations in organisations [DiMaggio and Powell (1983), Sutton et al. (1994)]. From this point of view, the rate of rule formation and rule change grows with increases in the importance of external factors. An alternative view considers the propensity for organisations to substitute external regulations for organisational regulations. The propensity to create and/or to change rules thus declines with the increased adoption of external rules (March and Olsen, 1995). March et al. (2002) recognise that the relation between the strain of the environment on one side and the reaction of the organisation on the other remains ambiguous. "These various arguments make it quite unclear what kind of relation we should expect between external pressures and organizational response" (p. 60). According to us, these two approaches are not inconsistent; one can imagine that, over the course of time and according to specific economic and social conditions, environmental pressure might induce new rules or contribute to the production of fewer rules. Whatever the direction of the effects, the external environment affects rules in organisations.

Over recent years, international financial markets have been characterised by increasing competition. This competition leads to merger. In Europe, the first wave of mergers started with growing values markets. Through the Euro-NM, a network of certain European financial markets, the FNM rapidly found itself competing with another European market dedicated to growing values: the EASDAQ (European Association of Securities Dealers Automated Quotations). Both Euro-NM and EASDAQ failed to become attractive enough to growing European firms (Revest 2001b). With increased competition, mergers expanded to a European and international level. In 2000, the merger of the Paris Stock Exchange and the stock exchanges of Amsterdam and Brussels resulted in Euronext, a unique platform of exchanges. The German Stock Exchange and the London Stock Exchange also tried to merge, but their project, called iX - International Exchange - failed because of a hostile takeover attempt by the Stockholm market firm OM Grupen. At the worldwide level, one can mention the project of the NYSE, called Global Equity Market, involving nine stock exchanges, including Euronext. The NASDAQ is also attempting to conclude alliances with markets dedicated to growing values. Recently, the NASDAQ Japan emerged and the EASDAQ changed into the NASDAQ Europe. Concurrently, another competition is growing between financial markets and ATS (Alternative Trading Systems). These are electronic systems for the transmission and automatic execution of stock market orders. They include Instinet, Tradepoint, Archipelago, Attain, Brut and Island. They represent unregulated financial markets. ATS initiated by large agencies of financial information, broker firms and investment banks make lower transactions costs possible and remove the need for an intermediary.

This context of increasing competition, that expressed the strain of the environment, resulted in several rule changes in the FNM. We shall examine two of these changes. Firstly, in 1998, the FNM moved from a call auction mechanism to a continuous auction mechanism. Secondly, during the same year, the period of lock-up was reduced from three years to one year.

In a call auction, orders accumulate up until a specific moment, at which time they are executed. In a continuous auction, orders are matched continuously throughout the day. Continuous auctions are more suitable for dynamic stocks that are bought and sold very often and that involve large volumes being exchanged. Call auctions, on the contrary, are more suitable for less active stocks. The subject of introducing a continuous quotation on the FNM was first discussed during the meeting of the Board of Directors on 27 November 1997. Mr. Leblanc, director of the FNM, presented a study of the liquidity of the FNM for the third quarter. On the basis of this study, the possibility of quoting certain shares continuously was examined. The criteria used were those employed by the SBF (Société de Bourse Française) in the “first” and “second” markets. According to Mr. Leblanc, eight out fifteen shares could be quoted continuously. However, the opinion of the other members of the Board of Directors differed, because of the problems of fragmentation, reputation and the opinion of the intermediaries. They thought that the FNM was not dynamic enough to move toward a continuous auction system. However, approximately one year later, Mr Leblanc observed that the Neuer Markt was about to set up a continuous system of quotation. This information finally convinced the members of the board of directors to adopt a continuous system of quotation on the FNM. Nevertheless, this system remains expensive because orders have to be matched continuously. In addition, market making in the case of little exchanged stocks increases the risk borne by the market makers. Finally, a continuous auction system with non-active stocks may produce a negative image of the market and have a negative impact on its reputation.

The second example of the influence of the external environment concerns the lock-up period [20]. This rule, issued by the COB, refers to the shareholders leaders’ obligation to keep a minimum percentage of shares from the time of introduction until the expiry of a minimum period. In 1996, this period was 3 years on the FNM. The objective of the “lock-up” is to avoid a too-rapid selling-out of the shares. This rule discourages a short-term view, and obliges the shareholder leaders to think about the firm’s wealth in a medium-term perspective. In December 1998, the market authorities decided to reduce the lock-up period from three years to one year, because numerous shareholders leaders found this obligation too constraining. In addition, the other European markets for growing values chose a shorter period of preservation.

In these two cases, changes were solely explained by the strain of competition. Firstly, at the end of 1997, the FNM did not display enough liquidity for being quoted continuously. Secondly, the initial lock-up period - 3 years- achieved appropriately its purpose: to encourage a medium-term perspective for the investors.

3-3 The deficiency of organisational learning: the case of market making

In general, according to organisational theory, the age of the rules positively affects the persistence of an organisational structure. One of the mechanisms described by March et al. (2002) is the rise of abilities linked to the rules. “Improvements in rules and enhanced abilities to use them reduce incentives for revision. Rules are the technologies of organizational life (Levinthal and March, 1993). They become stabilized through competency traps as other technologies do (Arthur, 1989). A first group of abilities comprises increased skills at operating within existing rules, i.e. organisational learning. “Organisations become better at doing the things they do” (p. 73). Organisation members accumulate competence in interpreting rules, developing exceptions to rules, and understanding the boundaries and flexibility of rules. Another process refers to the accumulation of competence in changing rules. Part of the competence gained from experience is the ability to recognise the side benefits of engaging in rule change. Decision makers learn how to recognise problems in rules, how to mobilise attention on those problems, and how to prepare changes.

For the activity of market making, however, organisational learning and accumulation of ability in changing rules appear to be insufficient. Introduced as part of the NASDAQ model, market making is specific to the FNM; it does not exist in the other French segments. The Paris

[20] This rule concerns young firms.

Stock Exchange had always been order-driven until the creation of the FNM. Both the intermediaries and the investors lacked experience in market making. “The FNM, as the younger Paris segment market, was a victim of the historical practices and customs of the Paris Stock Exchange” (Perwald, 2002, p. 275). Several factors explain the failure of market making on the FNM. In a statistical study on market making carried out in 1999, French ITM expressed a negative opinion about the double quotation system on the FNM comprising both an order-driven market and market making (Revest, 2001b, p. 198). An investigation by Ernst and Young in collaboration with the ANVAR and the SNM revealed a negative appraisal of market making from the 28 FNM-quoted firms. These firms complained that ITM acted too prudently and they regretted the lack of real market making. The limits of French market making have been emphasised during periods of high volatility. During these periods, ITM did not post prices and consequently could not buy or sell anything. “Because of the lack of punishment, nothing was done to improve the ITMs’ respecting of obligations” (Perwald, 2002, p. 270).

Nowadays, in reality the function of market maker has almost disappeared in France. Market makers act more to stimulate the market (as “puffers”) than actually to carry out market making. Investors who like to negotiate blocks of shares call the ITM, and then bargain via posted prices. This fact illustrates the inability of the FNM to apply the law concerning market making and to recognise the necessity of engaging in rule change. The intermediaries were unable to perform market making and the market authority (the COB) was unable to resolve this difficulty.

3-4 The lack of respect of the ecology of rules

The last dimension relates to the fact that the dynamics of rules are linked to their ecological structure. In other words, rules are not autonomous. More precisely, they are interrelated. “Rules are linked to other rules in functional and procedural ecologies that place any particular rule in close proximity to some other rules and more distant from others” (p. 64). “Rules are bound together and separate from each other by barriers within an ecology of written rules” (p. 2).The analysis of the FNM’s dynamics of rules between 1996 and 2004 show that those changes have not always respected the ecology of the rules.

The first example concerns the choice taken by the COB (Commission des Opérations Boursières) and the market firm (Société du Nouveau Marché) to authorise some technological firms to be quoted quote on the first market, although their characteristics should have led them to the FNM. The lack of competence linked to market making This was the case for CompleTel[21] and Liberty Surf[22] being authorised by the COB (French Stock Exchange regulatory body). Other firms such as Wanadoo and Orange made the same choice[23]. The image projected by the FNM did not suit these firms and has driven them to apply for entry onto the *first market* instead of the FNM[24]. In order to understand why some technological firms ask to be quoted on the first market, it is important to underlined, that the FNM admitted non technological firms, such as *Saveurs de France*, *Joliez Regol* and *Proxidis*[25]. This decision resulted in the heterogeneity of the share-list (Perwald, 2002). Compared to other markets, the FNM share list did not appear completely rational. The Neuer Markt, on the contrary, only admitted small and medium innovative firms.

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[21] CompleTel is an alternative operator of urban fibre optic networks for businesses and the public sector as well as for telecommunications operators and internet access in France.

[22] In 2001, Liberty Surf was bought by Tiscali, which asked to be quoted on the FNM.

[23] Wanadoo provides internet access in Europe.

[24] The capitalisation of these firms enabled them to be quoted on the *first market*.

[25] *Saveurs de France* designs and manufactures frozen specialties and industrial pastry products. *Joliez Regol* is an insurance broker and *Proxidis* a hairdressing chain.

To a certain extent, the COB decision allowing some technological firms to be quoted on the *first market* had a negative consequence on the FNM image. Firms that join the FNM or the second market wish also to be quoted in the French first market. As a contrast, firms that enter the NASDAQ wish to remain in the NASDAQ. At the end of 2000, 20% of French technological firms were quoted in the first market, 26% in the second market and 54% in the FNM (Euronext).

A second example relates to exceptions to the conditions of entry onto the FNM that have been granted. The most frequently authorised dispensation concerns the obligation to spread to the public at least 20% of the firm's capital. This was the case for Selftrade and Netgem. The argument for dispensation initiated in other regulated markets. On the French first market, for example, dispensation for spreading at least 25% of shares to the public was frequently granted. This was the case for Alsthom and Rhodia, for example.

Thirdly, the exceptions to the conditions of entry lead the FNM during the internet bubble to admit unreliable firms characterised, for instance, by unviable projects, unskilled managers or a deficient demand. For instance, *La tête dans les nuages*, a chain of video games, presented implausible forecasts. The investors of *Belvedere*, a trader in strong alcohol, discovered a dispute about the ownership of the brand name. *Guyanor*, a gold prospector in Guyana, was not successful enough. After the introduction of these firms, investors often observed the collapse of quoted prices. The methods of assessment, relying notably on potential earnings (for instance the number of visitors per web page for internet firms) have been strongly criticised (Zadjenweber, 2000). The FNM has failed in its institutional duty to protect its investors (Dubocage and Revest, 2004).

The examples mentioned above raise the issue of the credibility of the FNM during the related period. In such circumstances, how investors can be confident in the market authorities? Champarnaud (2000) prevents from the intensification of competition: "It could lead the regulators to yield to temptation to favour the development of financial activities in their jurisdiction, reducing the degree of protection of investors and regulatory supervision".

Conclusion

In this paper, the performance of the FNM has been studied in the light of the dynamics of rules. The way that formal rules changed in the FNM between 1996 and 2004 testifies to the difficulties encountered by this market. It has disclosed relevant elements about the factors involved in the failure of this market. More precisely, the analysis of the FNM's dynamics of rules between 1996 and 2004 testifies a lack of consistency and relevance in the new rules, given the double dimension of the FNM, as an institution and an organisation. The coexistence of different institutional and organisational motives have undermined the functioning and the development of FNM. The study of the dynamics of rules reveal more precisely a consequent strain of the competition, a deficiency of organisational learning related to market making and a lack of respect of the rules' ecology. The performance of the FNM is viewed as connected to a fragile equilibrium between organisational and institutional motives. Both organisations and institutions generate rules, but these rules are governed by different motivations in each case. On the one hand, regulated financial markets must secure investors and maintain fairness and transparency. On the other hand, they must make profits and compete with other financial markets.

In January 2005, a major reform in the quotation system implied the end of the French market segments: the first market, the second market and the FNM. They have been replaced by a single official list (Eurolist by Euronext), where securities are classified by alphabetical order and by their capitalisation. Simultaneously, a new unregulated market, Alternext, have been created in order to finance small and medium firms. However, one may wonder whether this new organisational model will be able to stimulate the financing of French growing firms and whether it will enable the tension to be reduced between institutional and organisational motives.

References.

Andisel Choppin J., (2001), “Coopérations industrielles et positionnement concurrentiel: application aux marchés financiers organisés”, *Revue d’Economie Industrielle*, 95, pp: 61-82.

Arrow K., (1962), “Economic welfare and the allocation of ressources for innovation”, in Nelson editor, *The rate and Direction of Inventive activity*.

Arthur W., (1989), « Competing technologies, increasing returns, and lock-in by historical events », *Economic Journal*, 99, pp. 116-131.

Baker W., (1984), « Floor trading and crowd dynamic », in *The social dynamics of financial markets*, A. Adler and P. Adler (eds), Greenwhich, Connecticut., JAI Press, pp. 107-128.

Bator F. (1958), “The anatomy of market failure”, *Quartely Journal of Economics*, 72, pp. 351-379.

Biais B., Davydoff D. and Jacquillat B., (1997), *Organisation et qualité des marchés financiers*, PUF, Finance, Paris.

Champarnaud F., (2000), « Régulation et développement des places financières », *Revue d’Economie Financière*, 57, Quelles places financières pour demain ?

Chavance B., (2001), « Organisations, institutions, systèmes : types et niveaux de règles », *Revue d’Economie Industrielle,* 97, pp. 85-101.

Christie W. and Schultz P., (1994), « Why do NASDAQ market makers avoid odd - eighth quotes ? », *Journal of Finance*, 49, pp. 1813-1840.

Cohen W. and Levinthal D., (1989), “Innovation and learning: the two faces of R&D”, *The Economic Journal*, 99, pp. 569-96.

Commission des Communautés Européennes (1993), (1995), (1997), Office des publications officielles des Communautés européennes, L-2985 Luxembourg.

Cyert R. and March J. (1963), *A behavioral theory of the firm.* Englewood Cliffs, Prentice Hall.

DiMaggio P. and Powell W., (1983), « The iron cage revisited : institutional isomorphism and collective rationality in organizational fields », *American Sociological Review*, 48, pp. 147-160.

Dosi G., Marengo L., Bassanini L. and M. Valente, (1997), « Les normes comme propriétés émergentes d’un apprentissage adaptatif », in B. Reynaud, *Les limites de la rationalité, les figures du collectif,* (tome2), Paris, ed. La Découverte, pp. 45-64.

Dubocage E. and Revest V., (2004), “La valorisation à l’introduction des start-ups sur le Nouveau Marché français: une approche conventionnaliste and institutionnaliste”, communication pour le workshop *“Mieux comprendre la valorisatin des titres sur les places financières: regards croisés des sciences sociales”*, le 24 mai.

Dubocage E. and Rivaud-Danset D., (2002), “L’organisation des échanges sur le marché du capital risque”, *Revue d’Economie Industrielle*, 101, pp. 31-46

Favereau O., (1989), « Organisation et marché », *Revue d'Economie Française*, 4(1), pp. 65-95.

Granovetter M., (1985), « Economic action and social structure : the problem of embeddedness », *American Journal of Sociology*, 91 (3), pp. 481-510.

Grossman S. and Hart O., (1986), "The costs and benefits of ownership: a theory of vertical and lateral integration", *Journal of Political Economy*, 94, pp. 691-719.

Harvey M. and Randles S., (2002), « Markets, the organisation of exchanges and 'instituted economic process' - an analytical perspective », *Revue d'Economie Industrielle*, 101 , pp. 11-30.

Holmström B., (1979), "Moral Hazard and observability". *Bell Journal of Economics*, 10, pp. 74-91.

Kichou L. and Y. Rizopoulos , (2001), « L'innovation institutionnelle en tant que processus d'interactions organisationnelles », *Revue d'Economie Industrielle*, 97, 4 ième trimestre, pp. 139-152.

Levinthal D. and March J., (1993), « The myopa of learning », *Strategic Management Journal*, 14, pp. 95-112.

March J.G., Schulz M. and Zhou X., (2002), *The dynamics of rules : change in written organizational codes*, Stanford University Press, Stanford California.

March J.G. and J.P. Olsen (1995), *Democratic governance*. New-York: Free Press.

March. J.G. and Simon H., (1958), *Organizations.* Blackwell. Cambridge : Massachusetts.

Ménard C., (1995), « Markets as institutions versus organizations as markets ? Disentangling some fundamental concepts », *Journal of Economic Behavior and Organization*, 28, pp. 161-182.

Muniesa F., (2000), "Un robot walrasien. Cotation électronique et justesse de la découverte des prix", *Politix*, 13(52), pp. 121-154.

NASD, Department of Economic Research, 1998.

North D.C., (1991), *Institutions, institutional change and economic performance,* Cambridge : Cambridge University Press.

Orsi F., (2001), *Droits de propriété intellectuelle et marchés financiers dans les nouvelles relations science/industrie: le cas de la recherche sur le génome humain, doctorat en Sciences Economiques*, université Aix-Marseille II.

Perrin E., (1997), « Marché financier de petites capitalisations », in Encyclopédie des Marchés Financiers, *Economica*, pp. 779-801.

Perwald K. (2002), *Le NM : un outil évolutif pour le financement des entreprises de croissance,* Paris 1, thèse de Droit Privé.

Peukert H., (2003), "The German Neuer Markt as an adaptative institution", in *The Evolutionary Analysis of Economic Policy,* ed. P. Pelikan and G. Wegner, Edward Elgar, Cheltenham, UK.

Polanyi K., (1957), 'The Economy as an Instituted Process' in: K. Polanyi, C. Arensberg and H. Pearson (eds) *Trade and Market in the Early Empires,* the Free Press, New-York.

Revest V., (2001a), « Une réflexion sur la place des institutions au sein des théories de la microstructure », *Revue d'Economie Industrielle,* 96, 3ième trimestre, pp. 105-123

Revest V., (2001b), « Le Nouveau Marché : la construction d'une identité », Revue d'Economie Financière, 61, pp. 193-202.

Revest V., (2001c) , « La nature sociale des marchés financiers : le cas du NASDAQ », *Histoire et Anthropologie*, 22, 1er semestre, pp. 109-122.

Reynaud B., (2002), *Operating rules in organizations,* Macmillan.

Rivaud-Danset D., (2002), "*Innovation and New Technologies: Corporate Finance and Financial Constraints"*, International conference: Financial systems, corporate investment in innovation and venture capital EU-DG research and the Institute for New Technologies of the United Nations University, Brussels, 7 and 8 November 2002.

Roger B. et Faure P., (1995), Rapport du groupe de travail « Nouveau Marché », SBF, Bourse de Paris, février, pp. 1-44.

Scott, W., (1981), *Organisations : rational, natural and open systems.* Englewood Cliffs . N.J. : Prentice-Hall.

Société du Nouveau Marché, règles de fonctionnement du Nouveau Marché, mars-mai, 1996.

Sutton J., Dobbin F., Meyer J. and R. Scott, (1994), « The legalization of the workplace », *American Journal of Sociology*, 99, pp. 944-971

Zadjenweber D., (2000), *L'économie des extrêmes*, Flammarion.